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A TRAP FOR COLLECTING INSECTS

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For a number of years a screen trap of the rotor duplex type was used at Clarksville, Tenn., for collecting insects. A large number of species have been taken in this trap, and it is particularly useful in collecting large Lepidoptera which may respond either chemotropically or phototropically. It is also suitable for use in studies of sex attraction.

The purpose of this trap was to test the chemotropic response of tobacco hornworm moths. As many as 40 hornworm moths have been collected per trap within a 24-hour period. The wind vane permits openings in the trap to point either toward or away from the wind, and may be reversed to alter the relative positions of any two attractants undergoing comparison.

Construction

This device consists of a duplex trap (fig. 1) mounted on a metal wheel (fig. 2) with spindle and arm. The vane rotates the trap freely in the direction of the prevailing wind, and it is believed this increases the catch of moths in the trap.

The trap proper is constructed of wooden strips 1 by 2 inches, and the frame is 3 feet high and 4 feet square. Screen wire containing 12 meshes per linear inch was used to cover the frame, including the bottom. The insects enter through an opening, 15 inches by 4 feet, at the top of the frame. The lower baffle inclines upward and inward and terminates 9 inches from the end of the upper baffle. Two triangular openings at the top of the trap permit removal of captured specimens. These openings have a metal cover and rotate upon a hinge to open and close the aperture. The partition in the frame is constructed of tar paper which, it is believed, prevents intermingling of the chemical attractants undergoing comparison. The partition may be discarded when only one odor is being tested.

Operation

The trap support shown in figure 2 is set in the soil in the desired location, to a depth that will permit the free movement of the superimposed trap. Two boards, each 2 by 4 inches, are wired to the surface of the metal wheel upon which the cage or trap rests; these prevent shifting of the trap on the wheel from the force of air currents. The soil should be tightly packed about the rotor support, and some lubricant should be added to the hub of the wheel occasionally.

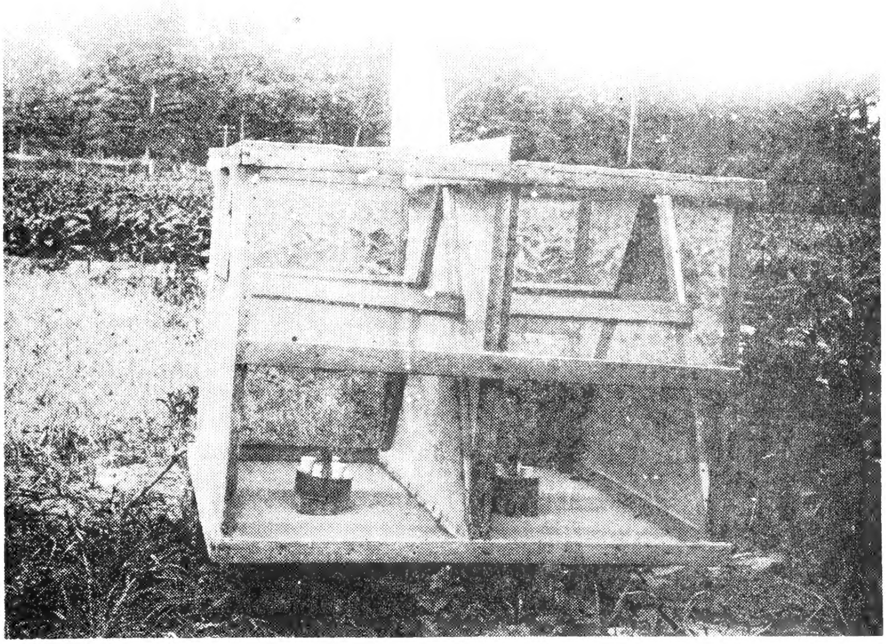

Figure 1.-The duplex screen trap for attracting and collecting **moths.**

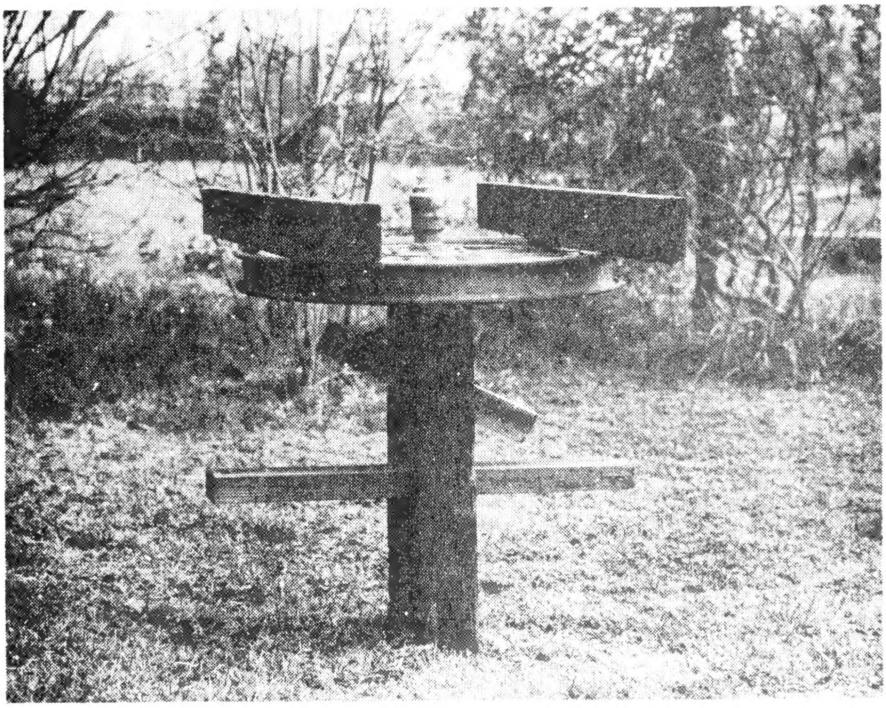

Figure 2.-The rotor support for the duplex screen trap shown in figure 1 and described in the accompanying text.

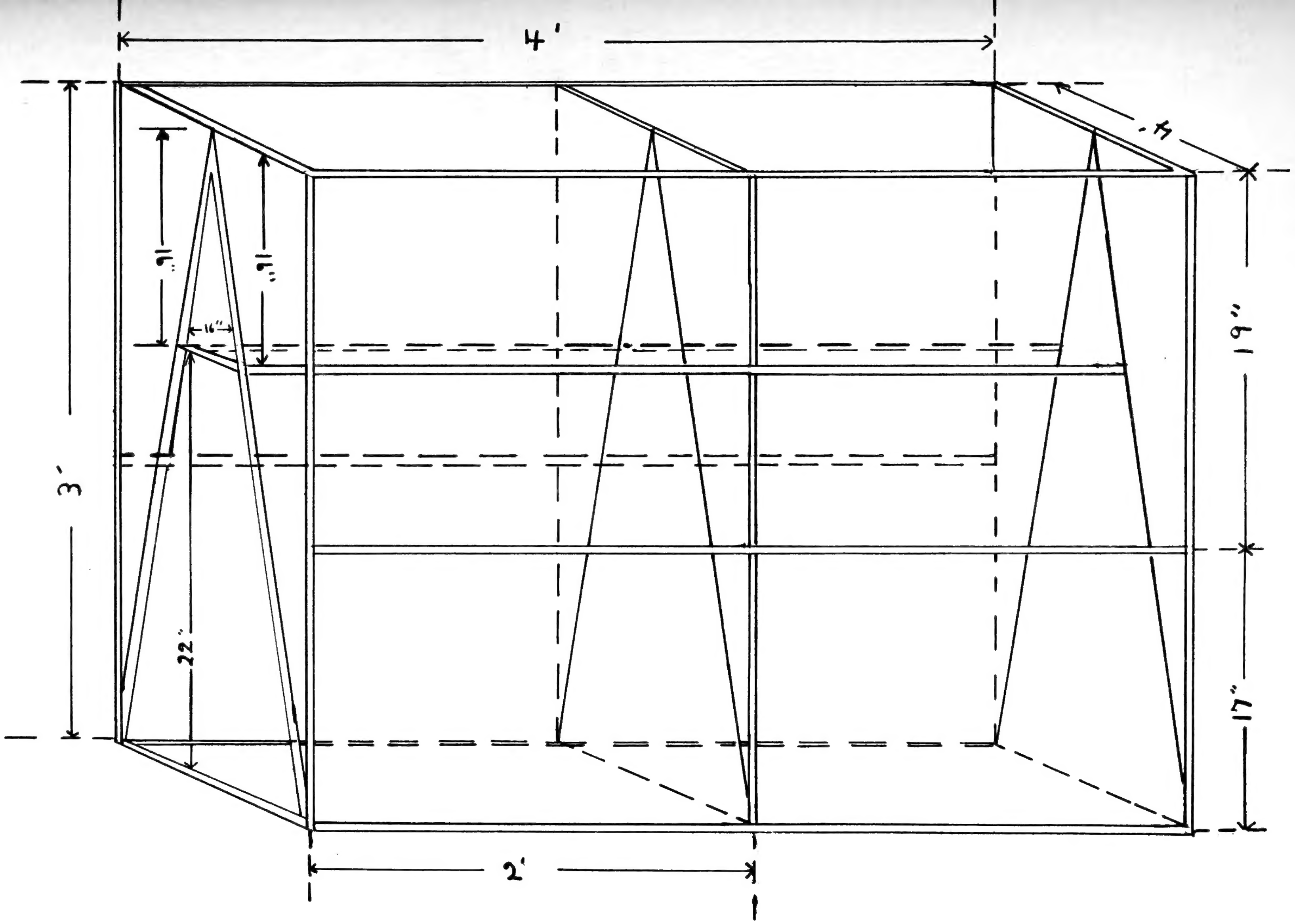

FIGURE 3.-DETAILS OF THE TRAP

DRAWN BY
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